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REVIEW OF THE IMPLEMENTATION OF COMMITMENTS AND OF OTHER PROVISIONS OF THE CONVENTION

ACTIVITIES IMPLEMENTED JOINTLY: REVIEW OF PROGRESS UNDER THE PILOT PHASE (DECISION 5/CP.1)

Second synthesis report on activities implemented jointly

Note by the secretariat

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I. INTRODUCTION

1. The Convention stipulates, as one of its principles, that efforts to address climate change may be carried out cooperatively by interested Parties (Article 3.3). By its decision 10/CP.3,[1] the Conference of the Parties (COP), at its third session, reaffirmed decision 5/CP.1[2] through which a pilot phase for activities implemented jointly (referred to below as "AIJ pilot phase") had been established among Annex I Parties and, on a voluntary basis, with non-Annex I Parties that so requested.

2. By its decision 13/CP.3, the COP gave the Subsidiary Body for Scientific and Technological Advice (SBSTA) the responsibility of preparing, with the assistance of the secretariat as specified in decision 5/CP.1, a synthesis report of activities implemented jointly for the COP. The Subsidiary Body for Implementation (SBI) has the responsibility of assisting the COP in reviewing the progress of the AIJ pilot phase based on the inputs from the SBSTA. The review by the COP, at its annual session, is to be undertaken with a view to taking appropriate decisions on the continuation of the AIJ pilot phase (decision 5/CP.1, para. 3(a)). "In so doing, the Conference of the Parties shall take into consideration the need for a comprehensive review of the pilot phase in order to take a conclusive decision on the pilot phase and the progression beyond that, no later than the end of the present decade" (decision 5/CP.1, para. 3(b)). The COP, at its third session, took note of the first synthesis report on AIJ (decision 10/CP.3) which was been contained in document FCCC/SBSTA/1997/12 and Corr.1-2, and Add.1.

3. The present document, which contains the second synthesis report on the AIJ pilot phase, responds to the above-mentioned mandate. Apart from presenting information on projects, it also addresses technical, methodological and institutional issues related to AIJ. Additional and updated information on these issues will be contained in document FCCC/CP/1998/INF.3.

4. The AIJ pilot phase is now perceived with additional interest as a result of the adoption of the Kyoto Protocol to the Convention, which includes two project-based mechanisms in its Articles 6 and 12, and following its accompanying decision 1/CP.3, which calls for preparatory work on these mechanisms. Despite the clear differences between the project-based mechanisms of the Kyoto Protocol and the AIJ pilot phase, there are a number of areas where lessons learnt during the AIJ pilot phase could be usefully employed in the design, development and operation of the project-based mechanisms, thus avoiding unnecessary duplication of effort (see also FCCC/SB/1998/2, as well as FCCC/SB/1998/MISC.1 and Add.3/Rev.1, Add.5 - 6). In this context, Parties may also wish to refer to FCCC/SBSTA/1998/6, annex II as well as to views from Parties on, *inter alia*, the work programme on the mechanisms contained in document

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[1] For the full text of decisions adopted by the Conference of the Parties at its third session see document FCCC/CP/1997/7/Add.1.

[2] For the full text of decisions adopted by the Conference of the Parties at its first session see document FCCC/CP/1995/7/Add.1.

FCCC/CP/1998/MISC.7 (and addenda, as necessary), which will be considered under item 5 of the provisional agenda.

II. MAIN CONCLUSIONS

5. If the AIJ pilot phase is to succeed in its aim of enabling host and investor Parties to gain experience, the **number of Parties involved** and **the number of programmes and projects** is of critical importance. Between the first and the second synthesis report, a tripling of Parties has been recorded. Among the 32 Parties currently accumulating experience with AIJ, 24 Parties do so as host and eight as investor countries. The second synthesis report, while reflecting 13 reports by Parties on their national programmes on AIJ, draws on an almost three-fold increase in the number of projects, and thus on a much larger empirical base than the first one. By 30 June 1998, 95 projects, as compared to 37 in 1997, were reported and found to be in accordance with the criteria for reporting under the AIJ pilot phase. The detailed list of projects, as well as all other related tables, are contained in the annex to this document.[3]

6. The **distribution of projects across regions and countries** has considerably widened, even though most AIJ projects, approximately two thirds of them are still carried out among Annex I Parties, that is between Annex II Parties as investors and Parties with economies in transition (EIT) as hosts. A significant number of projects are concentrated in two EIT countries (Latvia (24) and Estonia (19)). However, the number of projects hosted by non-Annex I Parties appears to be rapidly increasing. Whereas only three such Parties had reported AIJ projects in 1997, their number has risen to 14, constituting more than half of all host Parties. In Latin America, Costa Rica continues to host most projects (8), while Mexico has five and Honduras three activities. Belize, Ecuador, Nicaragua and Panama have one project each. In the Asia/Pacific region, there has been an increase from one to six projects within one year, involving Bhutan, India, Indonesia, Solomon Islands and Sri Lanka. In the African region, there is still only one project, located in Burkina Faso.

7. Considering the **type of project activities**, the prevalence, in absolute numbers, of renewable energy (40) and of energy efficiency (36)[4] projects is obvious. They are followed by forest preservation, reforestation or restoration (11) projects. These three types of activity account, for over 90 per cent of all projects, which is a percentage similar to that given in the first synthesis report.

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[3] This synthesis report reflects only those AIJ projects for which reports were received, either jointly or separately, from all designated national authorities (DNA) of Parties participating in an activity as indicated in annex IV of document FCCC/SBSTA/1996/8, by 30 June 1998. For an activity to be considered as an activity implemented jointly under the pilot phase, it needs, at the minimum, to be reported as having been accepted, approved or endorsed by all the DNAs involved.

[4] It is noted that for two projects in this category it was not possible to clearly identify the project lifetime and the GHG impact.

8. Relating the type of activity to the share of **greenhouse gas (GHG) emissions reduced or sequestered** (in CO_2 equivalent), reveals that the 11 forestry projects (52 per cent), 40 renewable energy (20.5 per cent) and two fugitive gas capture projects (18.6 per cent) yield the highest results while 36 energy efficiency projects account for 4.8 per cent of the abatement impact. Most AIJ projects remained relatively small in terms of investment and their individual contribution to GHG abatement. Thanks to the increased number of projects and the expected replication of successful types of projects, the overall abatement effect shows an upward trend. Table 2 contains summarized information on the estimated GHG abatement impact over the entire lifetime of all projects. It shows that the projects considered in this report would have a combined GHG impact of 162 million tonnes (in CO_2 equivalent). The average impact per project, over an average lifetime of 16.5 years, would total 1.7 million tonnes of GHG emissions reduced or sequestered.

9. The **quality of reporting** is an additional indicator of the interest in and the usefulness of the AIJ pilot phase. In this respect, it is noteworthy that the degree of homogeneity, scope and detail of reporting has significantly improved. In general, projects were, more often than for the first synthesis, reported according to the uniform reporting format (URF) adopted by the SBSTA at its fifth session in March 1997 (FCCC/SBSTA/1997/4). But reports still varied in terms of their structure, completeness and coverage. Conclusions must, therefore, be drawn with caution, in particular when considering the following issues:

(a) Environmental, social/cultural and economic benefits and negative impacts are generally not described in a detailed manner. Some Parties, being aware of this gap, indicated that future reports would need to be more specific, and that resources would need to be allocated to providing improved information;

(b) The basis for calculating costs and GHG mitigation effects is often insufficiently explained. Definitions of the costs of the AIJ component and other reporting items, such as the lifetime of the activity and technical data, are not consistent. While the basic methodological elements for calculating GHG reductions are generally stated, information would need to be supplied which allows the replication of the calculation;

(c) In general, work to improve data quality would need to be significantly expanded. This pertains in particular to data on the costs and the amount of GHG abated or sequestered as well as on cost-effectiveness. Most of these data still remain at the level of estimates of varying accuracy, mainly because of uncertainty about appropriate procedures for establishing baselines and definitional and conceptual problems. As a result, data reported on these important indicators must be used with caution, especially when making comparative analyses;

(d) The quality of reporting can be improved. Further clarification and harmonization of the elements and the process of reporting are needed. In this context, consideration may be given to the development of guidelines which provide definitions of terms and descriptor lists and which specify reporting requirements.

10. Concerning **financial additionality**, the findings are similar to those of the first synthesis report. The sources of funding, or the need to secure these, are often described in detail. In cases of multiple sources of funding, it appears important that reports describe financial additionality with regard to the financial obligations of Annex II Parties within the financial mechanism and current official development assistance flows.

11. As a result of the increased number of participating Parties and projects, the AIJ pilot phase is increasingly working towards **capacity-building** goals, particularly in the acquisition of procedural and institutional experience while achieving mitigation effects. On the part of investor and host Parties, there is increased awareness of the need to apply criteria referred to in decision 5/CP.1, and additional criteria which have been developed to reflect national priorities. This second synthesis report confirms the findings of the first that host Parties which set up an AIJ unit appear to be more successful in attracting financial resources and in ensuring their utilization in priority areas of national development. An increasing number of Parties are designating national focal points for AIJ and indicating interest in technical workshops, seminars and conferences on AIJ.

12. The increase in **knowledge on AIJ** is most apparent from the increased number of Parties involved and of projects under way and the overall improvement in reporting. It is commonly acknowledged that the AIJ pilot phase is a learning phase. Nevertheless, there is still uncertainty as to the short- to long-term gains of the AIJ pilot phase, partially because of the lack of knowledge about the formal requirements for setting up projects, reluctance to go through the AIJ approval procedures and lack of host country capacity. The first synthesis report concluded that information on the AIJ pilot phase was insufficiently disseminated in developing as well as developed countries and that incentives appeared to be inadequate, thus leading to hesitation on the part of the private sector to engage in significant investment. The modest involvement of the private sector in projects which are not publicly subsidized remains apparent. Additional investor interest in the AIJ pilot phase may, however, result from the participation, for the first time, of two large host Parties, India and Indonesia, as well as from the inclusion of project-based mechanisms in Articles 6 and 12 of the Kyoto Protocol.

13. Through project experience and technical work, the AIJ pilot phase was to develop, in particular, a body of knowledge from which practical options could be derived. In addition, through decision 10/CP.3, by which the COP adopted the URF for AIJ projects, Parties were invited "to provide inputs to the secretariat on their experience in using it, so that, if necessary, changes can be incorporated."

14. In the context of the AIJ pilot phase, in which crediting of emission reductions was excluded, ensuring modalities for mutually beneficial incentive structures for participating Parties remains an issue for consideration. The anticipated early start to the CDM may provide additional impetus for this discussion.

15. The need to further clarify approaches to the methodological issues adopted by the

SBSTA at its fifth session, emphasized in the first synthesis, is again underlined by the analysis of the much enlarged body of activities considered in this second synthesis. Priority areas for work on methodological, technical and institutional issues, which will also be of importance in the context of the project-based mechanisms of the Kyoto Protocol, include the following:

(a) The determination of environmental benefits;

(b) The consideration of costs;

(c) Transfer of environmentally sound technologies and know-how;

(d) Modalities for measurement, reporting and assessment;

(e) Endogenous capacity-building; and

(f) Institutional arrangements.

16. With a view to developing approaches on the above-mentioned issues, the secretariat is undertaking a number of initiatives:

(a) It is carrying out methodological work with a view to developing practical options for the determination of baselines/additionality, monitoring and reporting requirements, and the verification and certification process. This also includes work on harmonizing definitions. Options under consideration were discussed at a workshop organized by the secretariat in Abidjan (Côte d'Ivoire) from 14 to16 September 1998;

(b) Modalities are being developed for addressing capacity-building needs in host and investor countries, in the private and public sectors and at national, regional and international levels. Emerging approaches were considered by stakeholders participating in a second workshop organized by the secretariat, held in conjunction with the above one, also in Abidjan (Côte d'Ivoire) from 17 to18 September 1998; and

(c) Finally, the secretariat is participating in a series of workshops and seminars organized by other bodies on issues of monitoring, verification and certification and on lessons learnt from the AIJ pilot phase.

III. SYNTHESIS OF NATIONAL AIJ PROGRAMME REPORTS

17. Parties are invited to inform the COP on their national programmes. In accordance with the URF, this calls for the provision of contact information on DNAs for AIJ; descriptions of programme structures and features as well as of the process for obtaining approval, including procedure and criteria; and a summary of activities. Detailed information contained in those

programme reports received in electronic format is available from the UNFCCC World Wide Web site.[5]

18. Since the inception of the AIJ pilot phase, a total of 13 Parties have reported on their AIJ programmes. Of the six Parties which submitted AIJ programme reports for this document, one did so for the first time (France) while five Parties provided updates on earlier reports (Mexico, the Netherlands, Sweden, Switzerland and the United States of America).

19. All 13 Parties with national AIJ programmes reported that they had developed a number of criteria which they would like to see met during the pilot phase. These criteria are very similar to those presented in the first synthesis report. Almost all Parties state that emission reductions, and, in this context, baseline calculations, must be verifiable. The periodic reassessment of emission reductions and their estimates, as well as the sustainability of emission reductions, is emphasized. Several Parties require that proposals contain verification and/or monitoring plans. Concerning sustainable development criteria, some two thirds of Parties require the explicit analysis and consideration of environmental impacts and about one third also require this of social impacts.

20. In general, a refinement in the wording of criteria can be observed. This second synthesis reports on additional types of projects, such as those for sequestration, and on projects with a stronger emphasis on training and capacity building which aim at promoting the sustainability of the effort.

IV. SYNTHESIS OF REPORTS ON AIJ

21. This second synthesis report covers 95 AIJ projects for which reports were submitted prior to the deadline of 30 June 1998. The results emanating from the reports are summarized in accordance with the structure of the URF. Subheadings, incorporated in the paragraphs in bold characters, are followed by the URF number in parentheses.

A. Description of projects

22. The list of **projects by title (A.1)** is contained in table 1 in the annex to this document. Each activity listed has been reported as accepted, approved or endorsed by the relevant DNAs involved.

23. The **number of participants/actors (A.2)** per activity ranges from two to eight, with most projects involving three to six participants. Among them are private sector enterprises, non-governmental organizations, academic institutions, governmental agencies, the World Bank and the Global Environment Facility (GEF). Functions within the AIJ described for the host

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[5] Open the UNFCCC site at http://www.unfccc.de, proceed following the link to CC:INFO Products and to CC:INFO/AIJ.

country participants included: acting as a government contact for implementing projects, ownership of the facility at the activity site, local investor and developer, agencies that are responsible for reporting on and implementing AIJ, emissions testing, and activity evaluation. The functions of the investor country participants focused on financial and technical roles. Specific functions included the management and administration of AIJ, financing of the monitoring costs, scientific monitoring, project management/transfer of know-how, and technical support. No detailed standardized information on the role and activities of the participants is, however, available.

24. **Activity (A.3)** information is structured into (a) a general description of the activity; (b) a classification of activities by type; (c) an identification of the location; (d) an expected starting and ending date as well as the lifetime of the activity, if different; (e) the present stage of the activity; and (f) technical data. In accordance with the sectors identified by the Intergovernmental Panel on Climate Change (IPCC), the projects fall into the following categories (the respective number of projects being indicated in parentheses): renewable energy (40), energy efficiency (36),[6] fugitive gas capture (2), fuel switching (3), agriculture (2), emissions/sequestration from afforestation (1) and forest preservation/restoration or reforestation (11). No reports have so far been received on activities involving industrial processes, solvents, waste disposal or bunker fuels. In summary, more than three quarters of the projects were in the areas of either renewable energy or energy efficiency.

25. Figure 1 shows the number of activities of a specific type related to the share of GHG emissions reduced or sequestered, expressed in CO_2 equivalent. Approximately 56 per cent of the estimated GHG impact of current projects is expected to come from 11 forest preservation, reforestation or restoration projects (52 per cent), afforestation and agriculture. Renewable energy and fugitive gas projects are each to contribute about one fifth of the reduction effect. Energy efficiency projects account for less than 5 per cent and fuel switching less than 2 per cent of the total estimated impact. As already stated, two of the 36 energy efficiency activities did not provide data which could be used for this comparison.

26. In analysing the distribution of projects by type of activity, it should be borne in mind that a significant number of similar activities are being carried out by two cooperating Parties (see table 1). Their projects are in the areas of energy efficiency (mainly improvement of municipal/district heating systems) and in renewable energy (conversion to bio-fuel boilers).

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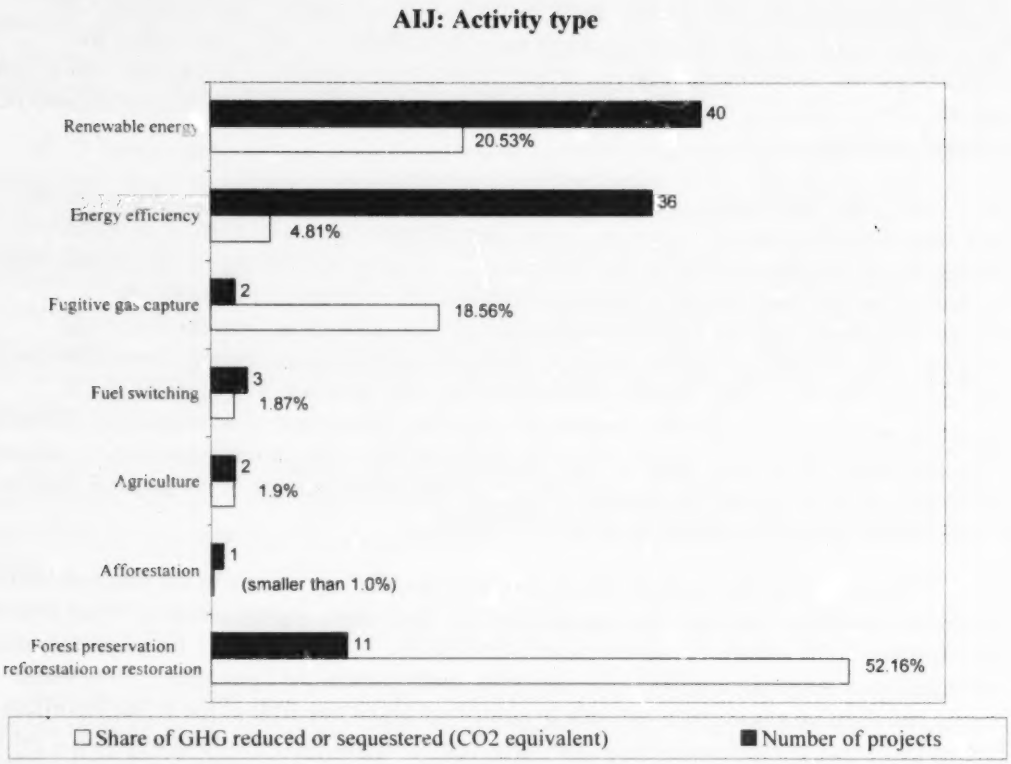
[6] See footnote 4.

Figure 1

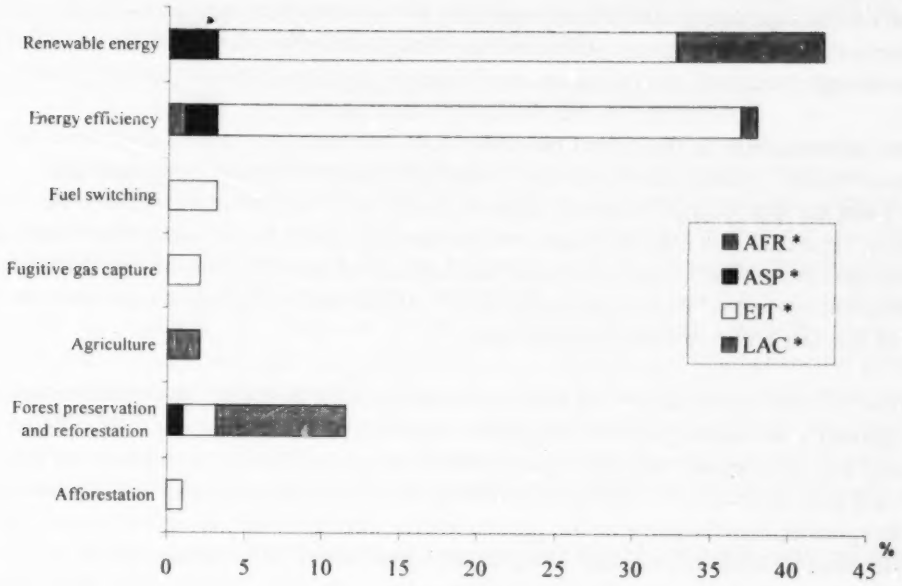


27. With the expansion in the number of projects, the geographic distribution of activities has begun to improve. An increase can particularly be noted in the Asia and the Pacific (ASP) region with now six projects (as compared to none in 1997), and in Latin America and the Caribbean (LAC) with 20 projects. There is, however, still a marked imbalance, especially considering that economies in transition (EIT) host 68 of the 95 projects. Africa (AFR) still has but one project in Burkina Faso. Other non-Annex II countries hosting AIJ include Bhutan, Fiji, India, Indonesia, Solomon Islands and Sri Lanka in the Asia and the Pacific region; Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Russian Federation and Slovakia among EIT countries; and Belize, Costa Rica, Ecuador, Honduras, Mexico, Nicaragua and Panama in the Latin America and the Caribbean region.

28. The analysis of geographical distribution by type of activity suggests that activities in the areas of energy efficiency, renewable energy, fuel switching and fugitive gases are mainly implemented in EIT countries while forestry-related activities are dominant in LAC countries (see figure 2).

Figure 2

AIJ: Regional distribution by type



* All information per type is represented as a percentage of the respective cumulative total over all projects

29. Projects are naturally at different stages of implementation. In reporting on the stage reached by each activity, Parties currently have divergent interpretations of the descriptors provided in the URF. This demonstrates the need for the development of a more differentiated and better defined list in order to improve accuracy and comparability.

30. Clear guidance is also required concerning definitions of the starting and ending dates of activities and their lifetime. The length of time between starting and ending date differs in most cases from the lifetime of the activity. Furthermore, there are different interpretations concerning the starting dates of projects. While most reports state the date at which a project becomes operational, some refer to the date when a project was accepted but not yet implemented. In addition, a distinction should be made between the technical lifetime of a project and the duration of financial support through a loan or grant. Currently available data show lifetimes of activities ranging from below five to 60 years, with an average of about 16.5 years. Only very few projects (6) are to run for less than five years, while the bulk (41 and 14)

fall into a 6-10 year and 11-15 year range, respectively. Approximately one third of the projects are in the 16-20 year (7) and over 20-year (25) range. For two activities it was not possible to identify the lifetime.

31. Further guidance is also needed on the provision of technical information on the projects, in particular regarding types of data and the level of detail. The information received so far included (a) carbon equivalent calculations regarding the forest to be preserved; (b) policy issues in the conversion from coal to gas; (c) calculations of improved efficiency goals for the activity; (d) data on energy produced; and (e) emissions of energy plants and vehicles such as buses.

32. **Cost information, to the extent possible (A.4)**, has been provided to some level of detail in most reports. Almost all recent reports distinguish between core investment (in 'hardware') and the financing of technical support ('software'). Some reports specify the distribution of types of costs over the years, while others just provide cumulative cost data. In order to provide transparency, consistency and replicability of cost calculations, the URF, which requests information on the "AIJ component in US$", would need to include a more concise definition of the data and conceptual requirements.

33. Some activity reports described the roles or activities of host country organizations in **mutually agreed assessment procedures (A.5)** as specified in the majority of URFs. Most reports stated that local and/or national organizations are responsible for the majority of the scheduled AIJ data collection and related monitoring activities during the operational phase of projects. Responsibilities for carrying out measurements were generally assigned to national and municipal institutions and, in some cases, to private organizations of the host country. Assessments were commonly carried out by public and private organizations of the host country. In one case, however, the task was given to a private company of the investor country. The responsibility to report on AIJ to the DNA was assigned, in some cases, to a private company of the investor country, and in other cases, to private or public organizations in the host country, sometimes with initial support from the investor country organizations. In one case the investor Party provided scientific support to those involved in measurement, reporting and assessment in the host countries. This distribution of responsibilities for assessments suggests that capacity-building needs arise at various levels.

B. Governmental acceptance, approval or endorsement

34. All activities are endorsed by the designated national authorities for activities implemented jointly. For 95 activities, reports have been submitted jointly, that is, one Party submitted the report with the concurrence of the other designated national authority involved in the activity. No separate reports have been submitted for the same AIJ by involved DNAs.

C. Compatibility with, and supportiveness of, national economic development and socio-economic and environment priorities and strategies

35. Responses by Parties show a range of goals and objectives with which AIJ are to be compatible: some state sustainable development goals in the areas of forestry and land-use, energy and transport, as well as the need to balance trade in traditional and non-traditional goods. Others require the activity to be in accordance with, or in support of, specific national, sectoral and/or local policies and describe relevant selection criteria.

D. Benefits derived from the AIJ project

36. Qualitative and quantitative information is provided regarding environmental, social/cultural and economic benefits. Nearly all Parties state benefits in each category, often with quantitative data for environmental benefits such as reductions in emissions of GHG and also referring to SO_2, N_xO and particles. Some Parties include other environmental benefits, such as fostering biodiversity, improving water quality and reducing erosion of hydrological resources. The majority of the reports indicate social/cultural benefits, including active involvement of local communities, increased public awareness, and maintenance of natural heritage and historical sites, as well as cleaner air. Among the economic benefits are savings on energy, effects of an improved working environment and economic opportunities through the introduction of new technologies. A few Parties also include the development of local production capacity through the involvement and/or establishment of local enterprises.

E. Real, measurable and long-term benefits that would not have occurred otherwise

37. Concerning the **estimated emissions without the activity (project baseline) (E.1)**, experience is accruing as projects expand in type and number. In most cases, brief descriptions of project baselines were provided. Some Parties reported baselines, such as for energy efficiency projects, that assumed no change in the pattern or level of energy consumption over the lifetime of the activity. In these cases, a project baseline can be established in a relatively straightforward manner. Other Parties reported a continuation of present trends, for example, assuming declining carbon stocks or unsustainable energy consumption patterns. Assumptions, in some cases, imply that there would be no technological advance or energy efficiency improvements in the absence of the AIJ activity over its lifetime or duration. In one case, the activity was analysed with four possible alternative scenarios for a baseline, depending on the market penetration of a more efficient product, and future GHG emission reductions were computed based on an "average scenario".

38. Brief descriptions were also provided of scenarios and methodologies applied to calculate emissions avoided or sequestered, i.e. **estimated emissions with the activity (E.2)**. In some cases, secondary effects of implementing an activity were indicated. For example, if in a cogeneration scheme renewables were to replace oil or coal, gas would still be needed for

generating the heat component. It should be noted that aspects related to the identification of the baseline and the activity scenario such as system boundary and leakage were, in most cases, not sufficiently addressed.

39. As implementation is proceeding, an increasing number of projects are providing data on the actual GHG emissions reduced or sequestered. Most projects which started in 1997-1998 have, however, no emissions data at this point. The calculations of projected and actual emission reductions focused primarily on CO_2. Only a small number of reports provided sufficiently detailed data to allow for the easy replication of calculations. Coverage of gases other than CO_2 is available in a few cases.

F. Financing of AIJ

40. Private investment in AIJ, currently engaged in about a quarter of the projects, still remains relatively low. This is in contrast with private sector interest in projects referred to in Articles 6 and 12 of the Kyoto Protocol.

41. There are several cases in which public funds, especially those which are in addition to present official development assistance and contributions to the financial mechanism of the Convention, are made available to AIJ. One Party has instituted a revolving fund. It finances the technical assistance and capacity-building activities in the form of grants and the remaining elements through loans to the host country entities, at a preferential rate. The dues paid by the host are reinjected into the fund.

42. Some activities involved funding by the GEF. The AIJ component is considered to be added on to a project which was to be implemented anyhow. The aim of the additional finance is to enhance the impact of a specific project, for example, by making it possible to install more gas boilers (in replacement of existing coal-fired boilers) than envisaged by the GEF project. Another example is the use of those funds to enable the host Party to subsidize the purchase of a larger number of high-efficiency light-bulbs than envisaged in the GEF project, thereby enhancing the chances of success of a demand-side management project.

G. Contribution to capacity building, transfer of environmentally sound technologies and know-how

43. The reports submitted for this synthesis confirm the findings of the first synthesis report that AIJ are making a contribution to capacity building, transfer of environmentally sound technologies and know-how. Such contributions include:

(a) Raising awareness and understanding, at the community and individual level, of the need to integrate externalities into economic reasoning, combining this with the sale of a non-traditional good, namely, certified tons of carbon reduced or sequestered;

(b) The transfer of energy technologies to the host country through the provision of conducive loan conditions; combined with training and the building of a network between participants at different activity sites, the replication potential for the respective technology is enhanced;

(c) The in-country transfer of technological know-how through the application of mainly locally available technology, coupled with community-level training of national energy officers by local experts;

(d) The transfer of a new technology and know-how to local producers, enabling them to produce and maintain the new product;

(e) The transfer of mobile emission and fuel consumption monitoring hardware and know-how to a national energy provider, with the aim of optimizing national power production; and

(f) The enhancement of national and local capacities in the area of sustainable forest management, carbonization and cooking stove technologies, and photovoltaic systems.

H. Additional comments

44. Most of the additional comments are activity-specific, ranging from technical difficulties, such as the choice of electrical voltage, or coordination of suppliers and water supply quality, to the threat to activity implementation of lack of additional funding. In addition, training and capacity building to maintain, service and manage technologies were considered important.

V. OUTLOOK

45. This second synthesis report comes at a time when Parties may wish to begin the consideration of a conclusive decision on the AIJ pilot phase and the progression beyond that, no later than the end of the present decade. They may also wish to pronounce themselves on the potential and the modalities of linkages between projects under the AIJ pilot phase and those anticipated under Articles 6 and 12 of the Kyoto Protocol. This may be considered of added relevance as Article 12, paragraph 10 of the Kyoto Protocol, on the clean development mechanism, anticipates that "certified emission reductions obtained during the period from the year 2000 up to the beginning of the first commitment period can be used to assist in achieving compliance in the first commitment period."

46. Lessons learnt from the AIJ pilot phase may be useful in identifying preferred practical options for the design, development and operation of the project-based mechanisms referred to in the Kyoto Protocol. This may apply in particular to areas of methodological and technical work (such as the development of standardized terminology and common definitions, the determination of baselines, and monitoring and reporting as well as verification), to issues

related to various stages in the project cycle process and to capacity-building at the level of project hosts and investors (see also FCCC/SB/1998/2, FCCC/SBSTA/1998/6, annex I[1] and views by Parties contained in documents FCCC/SB/1998/MISC.1 and Add.3/Rev.1 and Add.5-6, as well as in document FCCC/CP/1998/MISC.7 (and addenda, as necessary).

Annex

TABULAR PRESENTATION OF ACTIVITIES IMPLEMENTED JOINTLY

Table 1. Activities implemented jointly under the pilot phase

Activity type	Activity title	Parties (Host / Investor)	Lifetime (years)	GHG impact* (Tonnes)
Afforestation	RUSAFOR: Saratov Afforestation Project	Russian Federation / United States of America	40	292 728
Agriculture	Community Silviculture in the Sierra Norte of Oaxaca	Mexico / United States of America	30	3 065 333
Agriculture	Project Salicornia: Halophyte Cultivation in Sonora	Mexico / United States of America	10	437
Energy efficiency	Adavere District Heating	Estonia / Sweden	10	2 000
Energy efficiency	Air Conditioner Energy Conservation Programme for the Solomon Islands	Solomon Islands / Australia	---	---
Energy efficiency	Aluksne district heating	Latvia / Sweden	10	30 850
Energy efficiency	Balvi district heating	Latvia / Sweden	10	40 000
Energy efficiency	Boiler replacement and cogeneration in Adazi and Cielvarde	Latvia / Netherlands	15	51 000
Energy efficiency	Burkina Faso sustainable energy management	Burkina Faso / Norway	6	1 450 000
Energy efficiency	CO_2 recovery in a brewery in Zagreb	Croatia / Belgium	15	50 250
Energy efficiency	District heating network rehabilitation in Talsi	Latvia / Sweden	15	4 640
Energy efficiency	Emission reduction at power plants in Romania	Romania / Netherlands	5	1 092 000
Energy efficiency	Energy efficiency in Mustamae (Estib)	Estonia / Sweden	20	17 070
Energy efficiency	Energy Saving Project in Saldus III	Latvia / Sweden	15	1 980
Energy efficiency	Energy-efficiency improvement by Hungarian municipalities and utilities	Hungary / Netherlands	20	240 000
Energy efficiency	High Efficiency Lighting (ILUMEX)	Mexico / Norway	4.5	531 000
Energy efficiency	Horticulture project in Tyumen	Russian Federation / Netherlands	---	---
Energy efficiency	Integrated Agriculture Demand side Management AIJ pilot project	India / Norway	20	1 494 600
Energy efficiency	Järvakandi District Heating	Estonia / Sweden	10	3 900
Energy efficiency	Jelgava district heating	Latvia / Sweden	10	4 120
Energy efficiency	Jelgava energy efficiency	Latvia / Sweden	10	800
Energy efficiency	Liepa boiler conversion project	Latvia / Sweden	15	62 900
Energy efficiency	Modelling and optimization of grid operation of the gas transportation system "Ushgorod Corridor" of Wolgotransgas (Gazprom)	Russian Federation / Germany	2	225 000
Energy efficiency	Modernization of cement factory in Cizkovice	Czech Republic / France	5	168 000

Table 1. (continued)

Activity type	Activity title	Parties (Host / Investor)	Lifetime (years)	GHG impact* (Tonnes)
Energy efficiency	Mustamäe - Mustamäe tee, Ehitajate tee, Sütiste tee Energy Efficiency (cooperative houses)	Estonia / Sweden	15	2 712
Energy efficiency	Mustamäe - Vilde tee Energy Efficiency	Estonia / Sweden	10	3 000
Energy efficiency	New boiler plant in Ignalina	Lithuania / Sweden	25	116 820
Energy efficiency	New boiler plant in Limbazi	Latvia / Sweden	25	142 100
Energy efficiency	Orissare district heating	Estonia / Sweden	10	8 500
Energy efficiency	Saldus district heating	Latvia / Sweden	10	3 350
Energy efficiency	Saldus energy efficiency	Latvia / Sweden	10	2 100
Energy efficiency	Staciunai district heating	Lithuania / Sweden	10	3 300
Energy efficiency	System project in Kuressaare	Estonia / Sweden	25	291 250
Energy efficiency	System projet in Türi (2)	Estonia / Sweden	15	97 357
Energy efficiency	Türi district heating	Estonia / Sweden	10	9 100
Energy efficiency	Valga district heating	Estonia / Sweden	10	7 000
Energy efficiency	Vändra district heating	Estonia / Sweden	10	2 200
Energy efficiency	Võru district heating	Estonia / Sweden	10	40 000
Energy efficiency	Zelenograd district heating system improvements	Russian Federation / United States of America	30	1 575 040
Forest preservation	Bilsa biological reserve	Ecuador / United States of America	30	1 170 108
Forest preservation	ECOLAND: Piedras Blancas National Park	Costa Rica / United States of America	16	1 342 733
Forest preservation	Forest Rehabilitation in Krkonose and Sumava National Parks	Czech Republic / Netherlands	15	9 834 120
Forest preservation	Reduced Impact Logging for Carbon Sequestration in East Kalimantan	Indonesia / United States of America	40	134 379
Forest preservation	Rio Bravo Carbon Sequestration Pilot Project	Belize / United States of America	40	4 801 478
Forest preservation	Territorial and financial consolidation of Costa Rican national parks and biological reserves**	Costa Rica / United States of America	25	57 467 271
Forest reforestation	Commercial Reforestration in the Chiriqui province	Panama / United States of America	25	57 640
Forest reforestation	Klinki Forestry Project	Costa Rica / United States of America	40	7 216 000
Forest reforestation	Reforestation and forest conservation	Costa Rica / Norway	25	230 842
Forest reforestation	Reforestation in Vologda	Russian Federation / United States of America	60	858 000
Forest reforestation	Scolel Té: Carbon Sequestration and Sustainable Forest Management in Chiapas	Mexico / United States of America	30	1 210 000
Fuel switching	City of Decin: Fuel Switching for District Heating	Czech Republic / United States of America	27	607 150
Fuel switching	Coal to Gas Conversion	Poland / Norway	17	2 408 866

Table 1. (continued)

Activity type	Activity title	Parties (Host / Investor)	Lifetime (years)	GHG impact* (Tonnes)
Fuel switching	RABA/IKARUS compressed natural gas engine bus project	Hungary / Netherlands	20	7 400
Fugitive gas capture	RUSAGAS: Fugitive Gas Capture Project	Russian Federation / United States of America	2530 000 666	
Fugitive gas capture	Sanitary Landfilling with Energy Recovery in the Moscow Region	Russian Federation / Netherlands	10	7 300
Renewable energy	Aeroenergia S.A. Wind Facility	Costa Rica / United States of America	20	36 194
Renewable energy	Aluksne boiler conversion	Latvia / Sweden	10	254 000
Renewable energy	APS/CFE renewable energy mini-grid project	Mexico / United States of America	30	7 415
Renewable energy	Baisogale boiler conversion	Lithuania / Sweden	10	109 000
Renewable energy	Balvi boiler conversion	Latvia / Sweden	10	132 000
Renewable energy	Bio-Gen Biomass Power Generation Project, Phase I	Honduras / United States of America	21	2,373 940
Renewable energy	Bio-Gen Biomass Power Generation Project, Phase II	Honduras / United States of America	21	2 373 940
Renewable energy	Birzai boiler conversion	Lithuania / Sweden	15	169 500
Renewable energy	Brocenia boiler conversion	Latvia / Sweden	10	86 000
Renewable energy	Daugavgriva boiler conversion	Latvia / Sweden	15	195 000
Renewable energy	Doña Julia Hydroelectric Project	Costa Rica / United States of America	15	210 566
Renewable energy	El Hoyo-Monte Galan Geothermal Project	Nicaragua / United States of America	40	19 765 628
Renewable energy	Fuel Switch From Fossil Fuels to Bio-Energy AIJ Pilot Project	Slovakia / Norway	30	19 000
Renewable energy	Grid connected photovoltaic project	Fiji / Australia	1	13
Renewable energy	Haabneme boiler conversion	Estonia / Sweden	10	124 000
Renewable energy	Janmuiza boiler conversion	Latvia / Sweden	10	38 000
Renewable energy	Jekabplis boiler conversion	Latvia / Sweden	10	24 000
Renewable energy	Jurmala boiler conversion	Latvia / Sweden	10	94 000
Renewable energy	Kazlu Ruda boiler conversion	Lithuania / Sweden	10	44 000
Renewable energy	Kilung-Chuu Micro Hydel, Bhutan	Bhutan / Netherlands	4	25 000
Renewable energy	Narva Jõesuu Boiler Conversion	Estonia / Sweden	10	8 100
Renewable energy	Paldiski boiler conversion	Estonia / Sweden	10	81 000
Renewable energy	Plantas Eólicas S.A. Wind Facility	Costa Rica / United States of America	21	222 538
Renewable energy	Rauna boiler conversion	Latvia / Sweden	10	24 000
Renewable energy	SELCO - Sri Lanka rural electrification	Sri Lanka / United States of America	29	5 684 448
Renewable energy	Slampe boiler conversion	Latvia / Sweden	10	39 000
Renewable energy	Solar-based Rural Electrification in Honduras	Honduras / United States of America	24	34 398
Renewable energy	Sventupe Boiler Conversion and Energy Efficiency	Lithuania / Sweden	10	36 500

Table 1. (continued)

Activity type	Activity title	Parties (Host / Investor)	Lifetime (years)	GHG impact* (Tonnes)
Renewable energy	Tartu- Aardla boiler conversion	Estonia / Sweden	15	122 300
Renewable energy	Tierras Morenas Windfarm Project	Costa Rica / United States of America	13	57 203
Renewable energy	Ugale boiler conversion	Latvia / Sweden	10	44 000
Renewable energy	Valga boiler conversion	Estonia / Sweden	10	64 000
Renewable energy	Valka boiler conversion	Latvia / Sweden	10	30 000
Renewable energy	Varena boiler conversion	Lithuania / Sweden	10	195 000
Renewable energy	Vienybe boiler conversion	Lithuania / Sweden	10	140 000
Renewable energy	Viesite boiler conversion	Latvia / Sweden	10	24 000
Renewable energy	Viljandi boiler conversion	Estonia / Sweden	15	147 000
Renewable energy	Võru Boiler conversion	Estonia / Sweden	10	114 000
Renewable energy	Wind power plant	Latvia / Germany	10	12 579
Renewable energy	Ziegzdriai Boiler Conversion + Energy Efficiency	Lithuania / Sweden	10	22 000

* Estimated GHG emissions reduced or sequestered (in tonnes of CO_2 equivalent).

** This project absorbed two previously reported activities "CARFIX: Sustainable Forest Management" and "BIODIVERSIFIX"

Table 2. Number of activities and GHG impact, by activity type during project lifetime

Activity type	Number of projects	GHG impact*	Average GHG impact per project*
Forest preservation, reforestation or restoration	11	84 322 571	7 665 688
Afforestation	1	292 728	292 728
Agriculture	2	3 065 770	1 532 885
Fuel switching	3	3 023 416	1 007 805
Fugitive gas capture	2	30 007 966	15 003 983
Energy efficiency	36**	7 773 939	215 943
Renewable energy	40	33 183 262	829 582
TOTAL	**95**	**161 669 652**	**1 701 786**

* Estimated GHG emissions reduced or sequestered (in tonnes of CO_2 equivalent).

** For two energy efficiency activities the GHG impact was not clearly identifiable and was thus counted as zero until information becomes available.

Table 3. Number of activities, by type and region

Activity type	Region*				Total per type
	AFR	ASP	EIT	LAC	
Afforestation			1		**1**
Forest preservation and reforestation		1	2	8	**11**
Agriculture				2	**2**
Fugitive gas capture			2		**2**
Fuel switching			3		**3**
Energy efficiency	1	2	32	1	**36****
Renewable energy		3	28	9	**40**
Total per region	**1**	**6**	**68**	**20**	**95**

* AFR: Africa, ASP: Asia and Pacific, EIT: Economies in transition, LAC: Latin America and Caribbean

** For two activities the GHG impact and lifetime was not clearly identifiable.